



U.S.S.N. 09/479,146

99-051-TAP (STK 99051 PUS)

IN THE CLAIMS:

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Technology Center 2100

Please cancel claims 1-11 and 15.

Please replace claims 12-14 and 16-17 as shown below. A marked up version of the amended claims is attached to this Amendment.

12. (AMENDED) In a magnetic tape having data blocks and a parity block in which the data blocks and the parity block are serially arranged on the magnetic tape with the parity block following the data blocks and the parity block being based on the data blocks, a method for providing the data blocks from the magnetic tape to a host, the method comprising:

reading the data blocks sequentially from the magnetic tape;

determining if the data block currently being read is good or bad;

providing the data block currently being read to the host if the currently being read data block does not follow a bad data block;

if one of the data blocks is bad, storing the good data blocks following the bad data block in sequential order;

accumulating parity of the good data blocks as the data blocks are being read;

reading the parity block from the magnetic tape after all of the data blocks have been read;

if one of the data blocks is bad, reconstructing the bad data block from the accumulated parity of the data blocks and the parity block in order to form a reconstructed good data block;

providing the reconstructed good data block to the host; and

providing the stored good data blocks to the host in sequential order after the reconstructed good data block has been provided to the host.

13. (AMENDED) The method of claim 12 wherein:
accumulating parity of the good data blocks includes exclusive ORing the parity of the good data blocks read prior to the good data block currently being read with the good data block currently being read.

14. (AMENDED) The method of claim 13 wherein:
reconstructing the bad data block includes exclusive ORing the parity of the good data blocks with the parity block.

16. (AMENDED) A data storage array system for providing data blocks to a host, the system comprising:

magnetic tape having data blocks and a parity block in which the data blocks and the parity block are serially arranged on the magnetic tape with the parity block following the data blocks and the parity block being based on the data blocks;

a controller for reading the data blocks sequentially from the magnetic tape and for reading the parity block from the magnetic tape, wherein the controller determines if the data block currently being read is good or bad, the controller providing the data block currently being read to the host if the currently being read data block does not follow a bad data block, the controller reading the parity block from the magnetic tape after all of the data blocks have been read;

a buffer, wherein if one of the data blocks is bad, the buffer stores the good data blocks following the bad data block in sequential order; and

a parity accumulator for accumulating parity of the good data blocks as the controller reads the data blocks;

wherein if one of the data blocks is bad, the controller reconstructs the bad data block from the accumulated parity of the good data blocks and the parity block in order to form a reconstructed good data block;

wherein the controller provides the reconstructed good data block to the host and then provides the good data blocks stored in the buffer to the host in sequential order after the reconstructed good data block has been provided to the host.

17. (AMENDED) The system of claim 16 wherein:

the parity accumulator accumulates parity of the good data blocks by exclusive ORing the parity of the good data blocks read prior to the good data block currently being read with the good data block currently being read.

Please add new claim 18 as follows:

18. (NEW) The system of claim 17 wherein:

the controller reconstructs the bad data block by exclusive ORing the parity of the good data blocks with the parity block.